IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Hans-Hermann Wippersteg Serial No.: 10/051,876 Filed: 01/17/2002 For: Method for Planning a Repair of Mobile Machines	Group No.: 3689 Atty. Docket No.: 3957/459156-103 Examiner: MICHAEL J. FISHER

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APPEAL BRIEF

Responsive to the Office action dated May 10, 2007 and pursuant to 37 CFR §41.37, Applicant submits the following Appeal Brief. It is not believed that any additional extensions of time or payment of additional fees are required. However, in the event that any extensions of time or additional fees are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for, and any fees required are hereby authorized to be charged to Deposit Account 11-0160.

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I. Real Party in Interest

CLAAS Selbstfahrende Erntemaschinen GmbH is the real party in interest.

II. Related appeals and interferences

None.

III. Status of Claims

A. Status of all Claims

Claims 53 - 74 are rejected. Claims 1 - 52 have been cancelled.

B. Appealed Claims

Claims 53 - 74 are appealed.

IV. Status of Amendments

No amendments have been filed subsequent to the final Office Action issued by the Examiner on May 10, 2007.

V. Summary of Claimed Subject Matter

The present invention is a method for promoting efficient repair for specific ones of a plurality of combines and/or harvester machines. The invention generates a specific repair plan with a specific "work path" having instructions for a specific repair of an individual machine. General repair plans for repair of broken parts or assemblies are stored in a first database.

Individual machines may vary in significant ways from the general information on a particular model of machines, when the machine is as complex as a combine or harvester. Certain ones of a plurality of machines having a particular model number may be made differently from others having the same model number. Design changes are made from one model year to the next, from one production run to the next and may even be made within the same production run. The system and method of the present invention identifies the individual machines by a unique identifier. Using this unique identifier, an individual machine can be looked up and specific design changes from its production run or place in a particular production run may be identified with regard to a particular part or assembly for which repair instructions are sought. Upon identifying such pre service life design variations, this data can be used to modify the general repair plan retrieved from the first database.

After service life begins, combines and harvesters are often modified, with certain parts and assemblies converted from the original stock parts and assemblies to different parts and assemblies. Repair shops capable of such conversions also have computers, databases and memories. Accordingly, when such conversions are made after the beginning of a machines' service life, they may be stored in a database. The invention accesses both the pre service life design change database and the service life conversion database and uses the information stored

there to modify repair plans and work paths for generation of a current repair plan specific for that individual machine.

The limitations of the appealed claims are supported in the original specification as follows:

53. The invention is a method for generating a repair plan for any one of a plurality of combines or harvester machines, said repair plan comprising step by step instructions for a human being to repair one of said machines, said method comprising:

providing a central processor **(specification, page 3 , lines 1 - 21 , reference # 8)** and at least one remote processor **(specification, page 3, lines 1 - 21, reference # 4)**, each of said processors having a network interface for operative communication through a computer network **(specification, page 3, lines 1 - 21, reference # 6; page 4, lines 6 - 14)** and each of said processors being associated with a memory**(specification, page 3, lines 1 - 30, reference # 8, 10)**;

recording in one of said memories individual data uniquely associated with each individual of said plurality of machines **(specification, page 3, lines 1 – 21; page 4, lines 15 - 20)**, said individual data comprising a first data set **(specification, page 3, lines 1 - 30, reference # 8, 10)** comprising a plurality of base repair plans **(specification, page 4, lines 11 - 20)** for each individual of said plurality of machines said base repair plans having a work path **(specification, page 5, lines 12 - 25)**;

recording in one of said memories a second data set comprising a pre service life design change **(specification, page 1, lines 18 – 24; page 5, line 12 through page 6, line 16)** of any individual of said plurality of machines;

configuring one of said processors to record in said memory a third data set comprising any service life conversions **(specification, page 5, line 12 through page 6, line 16; page 7 lines 23 - 27)** of parts of each individual of said plurality of machines; and

configuring at least one of said processors to generate a current repair plan when a repair plan is requested by a user **(specification, page 4, lines 11 - 20)** identifying an individual one of said plurality of machines according to a unique identifier of that individual machine **(specification, page 4, lines 24 - 30)**, said current repair plan being a modification of said base repair plan and of said work path from said first data set according to any pre service life design changes from said second data set and according to any service life conversions of parts from said third data set **(specification, page 5, line 26 through page 6 line 16 and page 7, lines 1 - 20)**.

54. The data in said first, second or third data sets is selected from the group consisting of: parts needed for repair, parts recommended for maintenance, costs of suggested parts, availability of suggested parts, personnel recommended for a repair, availability and qualifications of personnel, and a history of said parts conversions the individual one of said machines **(specification, page 5, lines 12 - 25)**.

55. (Previously Presented) The method of claim 53 including an approval field configured for response by a user at said remote computer, said approval field being displayed in conjunction with said display of said data **(specification, page 7, lines 1 - 11)**.

56. (Previously Presented) The method of claim 53 including a feedback input receiver, said feedback input receiver transmitting feedback data to said central computer for storage in said memory of said central computer **(specification, page 7, line 27 through page 8, lines 15)**.

57. (Previously Presented) The method of claim 53 wherein said feedback includes feedback selected from the group consisting of: a job completion acknowledgement, invoicing information and maintenance status **(specification, page 7, line 20 through page 8, lines 15)**.

58. (Previously Presented) The method of claim 53 wherein said processor of said central computer is configured to calculate and store in a memory a variance data set **(specification, page 7, line 20 through page 8, line 6)**.

59. (Previously Presented) The method of claim 53 wherein said variance data set is selected from the group consisting of: repair time, employee evaluation, part performance evaluations, and system accuracy **(specification, page 7, line 20 through page 8, line 6)**.

60. (Currently Amended) The method of claim 53 wherein said remote computer is located in one of said machines.

61. (Previously Presented) The method of claim 53 wherein said second data set relates to data from the group consisting of: the machine's model, the machine's year of manufacture, and the machine's equipment **(specification, page 5, line 26 through page 6, line 16)**.

62. (Currently Amended) The method of claim 53 wherein said third data set includes data selected from the group consisting of : the machine's hours of running and the machine's service history **(specification, page 5, line 26 through page 6, line 16)**.

63. (Previously Presented) The method of claim 53 further comprising a diagnostic processor in each individual one of said plurality of machines, said diagnostic processor, when in operative communication with one of said central computer or said remote computer, communicating diagnostic data **(specification, page 6, lines 17 - 25)**.

64. (Currently Amended) The method of claim 53 wherein said repair plan includes particulars regarding at least one of: a necessary expenditure of time to be planned for repair of the machine, a list of parts needed for repair of the machine, a list of tools needed for repair of the machine, or a graphic detail necessary for carrying out repair of the machine, an allocation of employees, an allocation of work space, or an allocation of repair vehicles **(specification, page 6, line 26 through page 7, line 11)**.

65. (Previously Presented) The method of claim 53, wherein needed resources are automatically provided upon an acceptance of the repair plan **(specification, page 7, lines 12 - 19)** .

66. (Previously Presented) The method of claim 53, including an input verification element for verification of the execution of each work step of the repair plan into said remote computer system **(specification, page 7, lines 20 - 30)**.

67. (Previously Presented) The method according to claim 53, wherein the remote processor produces documentation on the repair carried out from the repair plan and sends the documentation to said central processor, indicating said unique identifier of the machine **(specification, page 7, lines 20 - 30)**.

68. (Previously Presented) The method according to claim 53, wherein one of said remote processor or said central processor produces an account for repair of the machine, with the aid of the repair plan **(specification, page 7, lines 20 - 30)**.

69. (Previously Presented) The method according to claim 53 further comprising a repair vehicle, said repair vehicle having a processor in operative data communication with at least one of said diagnostic system, said remote processor or said central processor **(specification, page 5, lines 1 - 5)**.

70. (Currently Amended) The method according to claim 53 further comprising a diagnostic system within each individual one of said machines, the diagnostic system including an interface capable of operative communication with said remote processor, and said diagnostic system being configured to communicate data to said remote processor **(specification, page 6, lines 17 - 25)**.

71. (Previously Presented) The method of claim 53 wherein said created current repair plan includes a replacement of parts that have reached the end of their useful service life **(specification, page 5, lines 12 - 25)**.

72. (Currently Amended) The method of claim 53 further comprising a diagnostic memory in each of said plurality of individual one of said machines whereby said third data set may be updated when linked with said diagnostic memory **(specification, page 3, lines 22 - 25)**.

73. (Currently Amended) The method of claim 53 wherein said work path of said current repair plan includes instructions for dismounting particular working parts of the individual machine in order to reach a defective part **(specification, page 5, lines 12 - 25)**.

74. (Currently Amended) A method for generating a repair plan for any one of a plurality of combine or harvester machines, said repair plan comprising step by step instructions for a human being to repair one of said machines, said method comprising:

providing a central processor **(specification, page 3 , lines 1 - 21 , reference # 8)** and at least one remote processor **(specification, page 3, lines 1 - 21, reference # 4)**, each of said processors having a network interface for operative communication through a computer network **(specification, page 3, lines 1 - 21, reference # 6; page 4, lines 6 - 14)** and each of said processors being associated with a memory**(specification, page 3, lines 1 - 30, reference # 8, 10)**;

recording in one of said memories individual data uniquely associated with each individual of said plurality of machines **(specification, page 3, lines 1 – 21; page 4, lines 15 - 20)**, said individual data comprising a first data set **(specification, page 3, lines 1 - 30, reference # 8, 10)** comprising a plurality of base repair plans **(specification, page 4, lines 11 - 20)** for each

individual of said plurality of machines said base repair plans having a work path **(specification, page 5, lines 12 - 25)**;

recording in one of said memories a second data set comprising a pre service life design change **(specification, page 1, lines 18 – 24; page 5, line 12 through page 6, line 16)** of any individual of said plurality of machines;

configuring one of said processors to record in said memory a third data set comprising any service life conversions **(specification, page 5, line 12 through page 6, line 16; page 7 lines 23 - 27)** of parts of each individual of said plurality of machines; and

configuring at least one of said processors to generate a current repair plan when a repair plan is requested by a user **(specification, page 4, lines 11 - 20)** identifying an individual one of said plurality of machines according to a unique identifier of that individual machine **(specification, page 4, lines 24 - 30)**, said current repair plan being a modification of said base repair plan and of said work path from said first data set according to any pre service life design changes from said second data set and according to any service life conversions of parts from said third data set **(specification, page 5, line 26 through page 6 line 16 and page 7, lines 1 - 20)**;

providing a repair vehicle, said repair vehicle having a processor in operative data communication with at least one of said diagnostic system, said remote processor or said central processor**(specification, page 5, lines 1 - 5)**;

providing a diagnostic processor in each individual ones of said plurality of machines, said diagnostic processor, when in operative communication with one of said central computer or said remote computer, communicating diagnostic data**(specification, page 6, lines 17 - 25)**; and

providing a diagnostic memory in each of said plurality of individual machines whereby said third data set may be updated when linked with said diagnostic memory **(specification, page 3, lines 20 – 25; page 6, lines 17 – 25; page 11, lines 9 – 13 and specification, citations above and throughout)**.

All citations to support are directed to specific examples of the recited limitations, and each limitation is discussed and supported throughout the original specification and claims when properly taken as a whole.

VI. Grounds of Rejection to be reviewed on appeal

Pending claims 53 - 74 are rejected under 35 USC §103(a) as being obvious over U.S. Patent No. 5,442,553 (Parillo) in view of U.S. Patent No. 5,999,908 (Abelow).

VII. Argument

A. Rejections under 35 U.S.C. § 103

Pending claims 53 – 74 stand rejected under 35 U.S.C. §103 as being unpatentable over US Patent No. 5,442,553 (Parillo) in view of U.S. Patent No. 5,999,908 (Abelow). Applicant respectfully traverses this rejection.

The Prior Art

The Parillo reference teaches a wireless motor vehicle diagnostic and software upgrade system. It discloses a microprocessor in a vehicle storing information about the vehicle that can be downloaded by a computer at a remote service station. There is a recitation of one way communication comprising reporting of data from the remote station about the individual vehicle to a central processor, which is then used by the central processor for finding generic problems with a particular model by compiling similar problems from multiple cars of that model. See, Column 5 lines 30-45. There is no disclosure of any communication traveling from a central processor to a remote station computer. Accordingly, there is no disclosure of generation or sending of a repair plan, work path or any pre service life design changes anywhere, let alone to the remote station where a repair will be executed. In fact, Parillo does not disclose the generation of repair plans for human mechanics to execute anywhere.

The Abelow reference teaches a customer based product design module. It discloses "two way interactive media enabling relationships to be built with individual customers . . . throughout a product or services life cycle". See, abstract. The disclosure is directed towards gathering feedback from customers using a product and storing it, to be later reviewed by producers of the product in order that a next version of the product may be modified to more closely accommodate customer preferences.

The Prior Art Applied to the Claimed Invention

The final office action applies the prior art to claim 53 as follows. The citation to column and line in the office action is supplemented herein with the quotation of the actual citation relied upon. The office action states:

> "as to claim 53, Parillo discloses a system for repair management of vehicles (title ['wireless motor vehicle diagnostic and software upgrade system']), a network with interfaces for communication (Fig. 1 [showing an automobile and boxes labeled REMOTE STATION and BASE STATION with arrows between them]), processors with memories (computer, abstract lines 1-5 ["a transceiver and additional memory are connected to the microprocessor in a vehicle so that all, or selected portions, of operating data is stored in the memory and periodically transmitted to a remote station."]), recording in memories individual data uniquely associated with each machine (Col. 5, lines 14-16 ["as an example, the history of the engine timing is received at remote station 12 and reviewed and analyzed."]), a first dataset comprising a plurality of base repair plans (abstract, lines 4-6 ["the data is diagnosed at the remote station and, for minor repairs, a fix is transmitted back to the vehicle."]), recording in memory a dataset comprising changed in the machines [sic] (Col. 4, lines 57-64 ["however, the timing information, or history, is stored in memory 27 by microprocessor 25. Simultaneously, information from each of the other sensors 22 is stored in memory 27. It will be understood that, when specific programs are upgraded or new algorithms are developed/adapted, the upgrade or complete new program is transmitted to microprocessor 25 during a time that automotive portion 20 is not

being used."]) and a repair plan ("work path") is generated based on this information (Col. 5, lines 14-19 ["as an example, the history of the engine timing is received at a remote station 12 and reviewed and analyzed. If it appears that the timing has deteriorated to the point that a change should be made, remote station 12 sends a message to vehicle 15 to change the timing constant in RAM 42 to a more appropriate constant"]).

"Parillo does not, however, teach storing pre service life design changes. Parillo, as discussed, does teach using the system for agricultural machinery or storing pre services life design changes [no citation, Parillo does not teach anything about agricultural machinery or storing pre service life design changes].

"Parillo does teach the system as storing maintenance changes to the machine (timing, as discussed above), however, Parillo does not specifically teach hardware changes to the machines (such as a conversion of parts).

"Abelow teaches an electronic repair manual that is updated to reflect changes in the machines (Col. 31, lines 35-39 ["customization enables unique learning based on each specific product or service, and on one products evolving set of customer design instruments (CDI) which are modified as that product is iteratively improved over time."]) to be serviced. Further, Abelow teaches this to be done remotely from the machines (Col. 2, lines 13-20 ["This Customer-Based Product Design Module invention uses a combination of computer hardware, software and communications technologies to construct a module that is built into certain products and services to establish a network of customer-vendor-

distributor interactions and communications (or a network of internal organization-wide interactions in the area of computer-based performance).""]).

"It would have been obvious to one of ordinary skill in the art to modify the system as taught by Parillo with the updated service manuals as taught by Abelow as both teach systems and methods for repair of equipment and updating the information in order to keep the electronic manual up to date on the modifications of the machines to be serviced."

The office action is silent as to independent claim 74, other than to say "as to claims 72, 74, the upgrade data is available to be updated (Col. 4, lines 57-60)". Claim 74 does not recite upgrade data.

Failure to Establish Prima Facie Case under 35 U.S.C. § 103

The initial burden of establishing a prima facie case of obviousness is on the patent office, *In re Reinhart*, 531 F. 2d 1048, 189 USPQ 143 (CCPA 1976), MPEP 2142. The Final Office Action fails to bear this burden.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103, the Examiner bears the burden of establishing each of three requirements. First, the references must teach or suggest each and every element and limitation recited in the claims. *In re Vaeck*, 947 F. 2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991), MPEP §2142. See M.P.E.P. § 2143.03. Traditionally, the Examiner must next establish that some suggestion or motivation exists, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the references to achieve the presently claimed invention. See M.P.E.P. § 2143.01. Third, the

Examiner must establish a reasonable expectation of success for the proposed combination. See M.P.E.P. § 2143.02. Moreover, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure." M.P.E.P. § 2143. Appealing to "common sense" and "basic knowledge" without any evidentiary support cannot cure any deficiencies in the references. *In re Zurko,* 258 F.3d 1379, 1385 (Fed. Cir. 2001). The Final Office Action fails to meet any of these criteria.

The Office Action also fails to bear the examiner's burden of proof under the *Graham v. John Deere* and *KSR v. Teleflex* standards.

The *KSR* Court explicitly instructed that "Rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR* at section II A. This is emphasized in the post KSR guidelines which say, "The key to supporting any rejection under 35 USC § 103 is the clear articulation of the reasons why the claimed invention would have been obvious." *See*, guidelines Section III. "Office personnel must explain why the differences between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." Fed. Reg. Vol 72 at 57528. The only rationale in the Final Office Action is at the top of Page 3, wherein it is stated that both references teach "updated service manuals." They do not teach updating service manuals, let alone what is claimed.

The Examination Guidelines list Rationales A through G in addition to the familiar TSM test. Neither the TSM test nor the Guidelines rationales appear in the Office Action. This is the first reason why the Office Action fails to bear the examiner's burden of proof.

The relevant language from *KSR* is;

"Neither the enactment of §103 nor the analysis in Graham disturbed this Court's earlier instructions concerning the need for caution in granting a patent based on the combination of elements found in the prior art. For over a half century, the Court has held that a "patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men." Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U. S. 147, 152 (1950). This is a principal reason for declining to allow patents for what is obvious. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. Three cases decided after Graham illustrate the application of this doctrine.

In *United States* v. *Adams*, 383 U. S. 39, 40 (1966) , a companion case to *Graham*, the Court considered the obviousness of a "wet battery" that varied from prior designs in two ways: It contained water, rather than the acids conventionally employed in storage batteries; and its electrodes were magnesium and cuprous chloride, rather than zinc and silver chloride. The Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. 383 U. S., at 50–51. It nevertheless rejected the Government's claim that Adams's battery was obvious. The Court relied upon the corollary principle that when the prior art teaches away

from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious. *Id.*, at 51–52. When Adams designed his battery, the prior art warned that risks were involved in using the types of electrodes he employed. The fact that the elements worked together in an unexpected and fruitful manner supported the conclusion that Adams's design was not obvious to those skilled in the art.

In *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co.*, 396 U. S. 57 (1969) , the Court elaborated on this approach. The subject matter of the patent before the Court was a device combining two pre-existing elements: a radiant-heat burner and a paving machine. The device, the Court concluded, did not create some new synergy: *The radiant-heat burner functioned just as a burner was expected to function; and the paving machine did the same*. The two in combination did no more than they would in separate, sequential operation. *Id.*, at 60–62. In those circumstances, "while the combination of old elements performed a useful function, it added nothing to the nature and quality of the radiant-heat burner already patented," and the patent failed under §103. *Id.,* at 62 (footnote omitted).

Finally, in *Sakraida* v. *AG Pro, Inc.*, 425 U. S. 273 (1976), the Court derived from the precedents the conclusion that when a patent "simply arranges old elements *with each performing the same function it had been known to perform*" and yields no more than one would expect from such an arrangement, the combination is obvious. *Id.*, at 282.

The principles underlying these cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson's-Black Rock* are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements *according to their established functions.*

Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit. See *In re Kahn*, 441 F. 3d 977, 988

(CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *See, KSR*, section II A. [emphasis added]

Failure to Define Level of Ordinary Skill

The above quoted passage makes clear the second way in which the Office Action fails to bear the examiner's burden of proof; it does not say anywhere what the level of ordinary skill is in the relevant art, or even say what the relevant art is. This is the third *Graham* factor and is required. *KSR*, as quoted above, emphasizes the point.

There was no "design incentive or market force" that drove the combination recited in the pending claims. These terms seem fraught with peril as a legal principle for future application, but the Court expands on them, saying, "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill."

Non-Analogous Arts Improperly Used

The MPEP requires that combined references be in the same or analogous arts. The holding of *KSR* is that combined references be from the same art. In the Examination Guidelines for Determining Obviousness in view of KSR, all examples given combine references from the same art.

The Abelow reference is directed to software products and the medical industry. See, Column 1, lines 30, 59 and 61. That is not the same art, is not an analogous art and is not even a "reasonably pertinent" art to repairing a combine.

MPEP § 2141.01 (a) Requires "To rely on a reference under 35 USC 103 it must be analogous prior art." A reference must either be "In the field of applicants endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention is concerned." *In re Oetiker*, 977 F. 2d 1443, 1446 (Fed. Cir. 1992). (" A reference is reasonably pertinent if, even though it may in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to inventors attention in considering his problem.")

In MPEP 2141.01 section IV, analogy in the mechanical arts is described. In *In re Oetiker,* 977 F. 2d 1443, 1446 (Fed. Cir. 1992) the board was reversed for rejecting a claim to a hose clamp having a hook which had been rejected over a hook and eye fastener for use in clothing. The court held that the reference was not in the applicant's field of endeavor and was not reasonably pertinent to the particular problem with which the inventor was concerned because it has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected to look to fasteners for garments. In *In re Bigio* 381 F. 3d 1320, 1325 (Fed. Cir. 2004) a toothbrush reference was held to be in an art

analogous to the hair brush of the claimed invention. In *In re Deminski* 796 F. 2d 436 (Fed. Cir. 1986) the court found that pumps and compressors having essentially the same function and structure were analogous arts. *In Pentec Inc. v. Graphic Controls Corp.* 776 F. 2d 309 (Fed. Cir. 1985) engine fastener arts were held analogous. In *Ex parte Goodyear Tire and Rubber Company*, 230 USPQ 357 (1985) clutch pads and brake pads were held to be in analogous arts.

The "KSR Rationales" listed in the guidelines each include multiple examples of cases where obviousness was found. The guidelines include at least two prior art references on which each finding was based. In each and every one of these examples, all the prior art references were in the same art. For example in *Andersons Black Rock Inc. v. Pavement Salvage Company*, 396 US 57 (1969) a prior art reference to a pavement spreader and a prior art reference to a pavement heater were combined to reject a claim. In *Ruiz v. AB Chance Co.*, 357 F. 3d 1270 (Fed. Cir. 2004) a claim to a foundation anchor was rejected over a "push pier" foundation support and a "screw anchor" foundation support. *In re Fout*, 675 F. 2d 297 (CCPA 1982) a first method for decaffeinating coffee and a second method for decaffeinating coffee were combined to reject for obviousness a claim to a method of decaffeinating coffee. Each and every example given in the guidelines involves a combination of two prior art references *from the same art.*

KSR v. Teleflex itself is no different. The claim in issue was held obvious over the Smith and Asingo references. The Smith reference was a mechanical adjuster for a gas pedal. The Asingo reference was an electric sensor in and for a gas pedal.

The language of a case is a holding in the context of the facts at issue in that case. The language of a case divorced from the factual underpinnings of the case is mere dicta, that is, commentary that is not binding precedent. Hence, when the *KSR* court speaks of "design incentives and other market forces [that] can prompt variations of [a work] either in the same

field or a different one...," it is in the context of the two fields being analogous arts, such as heating in the paving art and pavement spreading in the pavement art in the *Andersons Black Rock* case cited immediately before the quoted passage in *KSR*.

In holding that elements may combined from pertinent arts the *KSR* Court also cited *Sakraida v. Ag Pro* 425 U.S. 273 (1976) which held invalid claims written to using water flow from cisterns or tanks to clean out cattle stalls in dairy farms. There were multiple prior art references to storing water for cleaning in dairy farms and to using flowing water to clean stalls (including the Court's citation to the fifth labor of Heracles, the cleaning out of the Augean cattle stalls). These too were clearly analogous arts.

These factual bases for the case law cannot be ignored.

Because the references combined in the office action are from radically different arts, the office action has not carried its burden to make a prima facie case of obviousness for these claims.

Failure of Rationale and Absence of Teaching in the Prior Art of Record

Most notable of course is the fact that nothing in of the prior art of record discloses the generation of a repair plan to be executed by a human repairman, with the repair plan having individual historical and accurate information about the actual current state of the particular broken combine. The Parillo reference is limited to only automated software upgrading and data collection. Eliminating time wasting repair errors caused by use of generic repair manuals without specific information about the particular machine being repaired is not remotely mentioned, let alone taught or suggested. The Abelow reference is not even reasonably pertinent to the recited limitations.

An equally glaring defect in the pending rejections is the complete lack of anything being transmitted from a central computer, or any computer having anything like a work plan database. In Parillo and Abelow alike, central computers only *receive* data, and store it for use later.

The Examiner initially relied on column 5, lines 14-16 of Parillo as disclosing the pending claim recitation of a "second data set being associated with a pre-service life design change in the associated individual agricultural, construction or forestry machine." The Parillo reference at column 5, line 14 actually says "as an example, the history of the engine timing is received at a remote station [computer] 12 and reviewed and analyzed." This statement in the reference does not refer to the central computer sending timing history to the remote computer, but rather to the vehicle sending timing history to the remote computer. At column 4, line 30 the microcomputer of Figure 2 is described. At column 4, line 51 the reference describes "the timing information, or history, is stored in memory 27 by microprocessor 25." This memory and microprocessor are disclosed in Figure 2 which is a block diagram of the "vehicular portion". This microcomputer is in the vehicle. It is not the central or base computer.

The Final Office Action, however, offers the contradictory statement, "Parillo does not, however, teach storing pre service life design changes. Parillo, as discussed, does teach using the system for agricultural machinery or storing pre services life design changes." See, Final Office Action, page 3. To settle the matter, Parillo discloses no such thing.

In fact, the only communication between the remote station and the central computer in the Parillo reference is the reporting of statistical information, such as number of repairs needed for a particular part, from the remote station to the base station. "Information is then used by the manufacturer to determine if a particular problem is generic to a specific model." *See* column 5, lines 31-46. The reference goes on to say that a recall notice can be issued.

Accordingly, the Final Office Action turns to Abelow to supply what Parillo cannot. The Final Office Action asserts, "Abelow teaches an electronic repair manual that is updated to reflect changes in the machines." It does not, but even taking the assertion on face value, the asserted disclosure does not teach what is claimed. Updating repair manuals is not claimed. Generating a repair plan with a work path for an individual machine, with the plan including any modifications of a basic repair plan made expedient by changes made to that individual machine in the form of pre service life design changes or service life conversions of parts or assemblies. In fact, the proposition in the Final Office Action is a non sequitur, if not teaching away; changing repair manuals to coincide with changes to an individual machine, pre or post service, would only cause errors in the repair of all the other machines. Hence, even if the Abelow reference did teach what the Office Action claims it teaches, combining that teaching with Parillo would yield an inoperative system that causes errors instead of preventing them for all machines repaired after the first one. Of course, a rejection based on an inoperative combination must fail.

Moreover, there is no motivation in the Parillo reference for generating a repair plan for a human being as claimed – only software changes are suggested, with changing the engine timing control software being the only example. See, Column 4, lines 51 – 64. (Similarly, there is no motivation or suggestion in the Abelow reference for repairing existing machines, only changing future ones.)

The prior art does not teach, suggest or motivate the transmission of a custom, individualized repair plan from the central computer to a remote computer for executing a particular repair. The transmission from the central computer to the remote computer of a repair plan is not taught suggested or motivated. Modification of a stored repair plan according to a

pre-service life design change is not taught, suggested or motivated in the reference. Modification of a repair plan according to a service life history is not taught, suggested or motivated by the reference. The pending claims recite all three.

The fundamental failure of the office action's obviousness argument based on Parillo is that the service life "changes" supposedly recited in it do not teach or suggest the "conversion of parts" as claimed. As is made clear in the present application and the language of the claims, the service life "conversion of parts" as claimed are not wear and tear. The Parillo reference very clearly states - precisely at those portions of it cited as supporting the office action - that "wear" is what it suggests recording in a memory, to facilitate ultimate diagnosis. The phrase used in Parillo is "wear and change", *see* column 4, lines 51-52. "Change" is the teaching emphasized in the office action, *see* page 3. However, "change" is not what is claimed. "Conversion of parts" is claimed.

Tellingly, Parillo never references any prior repairs of the vehicle in question, nor component changes, alterations, installed options or conversions. The Parillo reference, in the examples in columns 4 and 5, cites wear to mechanical parts that erode the timing until that needs changing. This is not a modification as claimed because it is not a prior repair, conversion, as claimed. The other example given at column 5 is that tire pressure may be low. This is also not a prior repair, conversion, or modification as claimed. The broadest disclosure of Parillo in this regard is at column 2, lines 32-48 where "dynamic data" items are recited, including "body integrity, air bags, tires, lights, brakes, transmission and engine/carburetor". Once again, none of these are prior repairs, conversions, or modifications as claimed. MPEP section 2111 is not a license to gloss two fundamentally different things in order to reject claims for obviousness. The

wear and tear of Parillo is not the claimed pre service life design changes or service life conversions of the present claims.

These fundamental failures of Parillo to support an obviousness rejection are noted in the office action, "Parillo does not specifically teach hardware changes to the machines."

The Abelow reference does not cure this failure. It does not teach "an electronic repair manual" updated or otherwise. It teaches changes in the design of new units of a product in response to an input customer expression of desire for those changes. The word "repair" or "repair manual" does not appear in or near the portions of the Abelow reference cited in the office action to teach either "electronic repair manual," or what is claimed presently.

Moreover, Abelow fails to teach or suggest the other present limitation admittedly absent from Parillo; "Parillo does not, however, teach storing pre service life design changes." Abelow teaches a feedback system for customers to express feature preferences for inclusion in future models of a product. An expressed feature preference is not a pre-service design change as claimed.

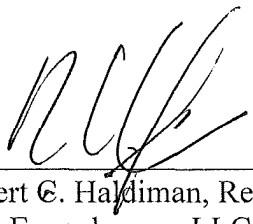
There is no citation in the prior references to any teaching of a remote repair vehicle having a processor capable of interfacing with processors on the machine to be repaired and/or elsewhere as recited in claims 69 and 74.

Because none of the prior art teaches or suggests the limitations claimed, Applicant respectfully submits that amended claim 53 and claims 54 through 74 are patentable over the prior art of record.

VIII. Conclusion

The obviousness rejections of the final office action fail to make a prima facie case of obviousness and should be withdrawn.

Respectfully submitted,



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IX. CLAIMS APPENDIX

Clean Copy of Appealed Claims

The text of the claims involved in the appeal is as follows:

53. A method for generating a repair plan for any one of a plurality of combines or harvester machines, said repair plan comprising step by step instructions for a human being to repair one of said machines, said method comprising:

providing a central processor and at least one remote processor, each of said processors having a network interface for operative communication through a computer network and each of said processors being associated with a memory;

recording in one of said memories individual data uniquely associated with each individual of said plurality of machines, said individual data comprising a first data set comprising a plurality of base repair plans for each individual of said plurality of machines said base repair plans having a work path;

recording in one of said memories a second data set comprising a pre service life design change of any individual of said plurality of machines;

configuring one of said processors to record in said memory a third data set comprising any service life conversions of parts of each individual of said plurality of machines; and

configuring at least one of said processors to generate a current repair plan when a repair plan is requested by a user identifying an individual one of said plurality of machines according to a unique identifier of that individual machine, said current repair plan being a modification of said base repair plan and of said work path from said first data set according to

any pre service life design changes from said second data set and according to any service life conversions of parts from said third data set.

54. (Currently Amended) The method of claim 53 wherein data in said first, second or third data sets is selected from the group consisting of: parts needed for repair, parts recommended for maintenance, costs of suggested parts, availability of suggested parts, personnel recommended for a repair, availability and qualifications of personnel, and a history of said parts conversions the individual one of said machines.

55. (Previously Presented) The method of claim 53 including an approval field configured for response by a user at said remote computer, said approval field being displayed in conjunction with said display of said data.

56. (Previously Presented) The method of claim 53 including a feedback input receiver, said feedback input receiver transmitting feedback data to said central computer for storage in said memory of said central computer.

57. (Previously Presented) The method of claim 53 wherein said feedback includes feedback selected from the group consisting of: a job completion acknowledgement, invoicing information and maintenance status.

58. (Previously Presented) The method of claim 53 wherein said processor of said central computer is configured to calculate and store in a memory a variance data set.

59. (Previously Presented) The method of claim 53 wherein said variance data set is selected from the group consisting of: repair time, employee evaluation, part performance evaluations, and system accuracy.

60. (Currently Amended) The method of claim 53 wherein said remote computer is located in one of said machines.

61. (Previously Presented) The method of claim 53 wherein said second data set relates to data from the group consisting of: the machine's model, the machine's year of manufacture, and the machine's equipment.

62. (Currently Amended) The method of claim 53 wherein said third data set includes data selected from the group consisting of : the machine's hours of running and the machine's service history.

63. (Previously Presented) The method of claim 53 further comprising a diagnostic processor in each individual one of said plurality of machines, said diagnostic processor, when in operative communication with one of said central computer or said remote computer, communicating diagnostic data.

64. (Currently Amended) The method of claim 53 wherein said repair plan includes particulars regarding at least one of: a necessary expenditure of time to be planned for repair of the machine, a list of parts needed for repair of the machine, a list of tools needed for repair of

the machine, or a graphic detail necessary for carrying out repair of the machine, an allocation of employees, an allocation of work space, or an allocation of repair vehicles

65. (Previously Presented) The method of claim 53, wherein needed resources are automatically provided upon an acceptance of the repair plan.

66. (Previously Presented) The method of claim 53, including an input verification element for verification of the execution of each work step of the repair plan into said remote computer system.

67. (Previously Presented) The method according to claim 53, wherein the remote processor produces documentation on the repair carried out from the repair plan and sends the documentation to said central processor, indicating said unique identifier of the machine.

68. (Previously Presented) The method according to claim 53, wherein one of said remote processor or said central processor produces an account for repair of the machine, with the aid of the repair plan.

69. (Previously Presented) The method according to claim 53 further comprising a repair vehicle, said repair vehicle having a processor in operative data communication with at least one of said diagnostic system, said remote processor or said central processor.

70. (Currently Amended) The method according to claim 53 further comprising a diagnostic system within each individual one of said machines, the diagnostic system including an interface capable of operative communication with said remote processor, and said diagnostic system being configured to communicate data to said remote processor.

71. (Previously Presented) The method of claim 53 wherein said created current repair plan includes a replacement of parts that have reached the end of their useful service life.

72. (Currently Amended) The method of claim 53 further comprising a diagnostic memory in each of said plurality of individual one of said machines whereby said third data set may be updated when linked with said diagnostic memory.

73. (Currently Amended) The method of claim 53 wherein said work path of said current repair plan includes instructions for dismounting particular working parts of the individual machine in order to reach a defective part.

74. (Currently Amended) A method for generating a repair plan for any one of a plurality of combine or harvester machines, said repair plan comprising step by step instructions for a human being to repair one of said machines, said method comprising:

providing a central processor and at least one remote processor, each of said processors having a network interface for operative communication through a computer network and each of said processors being associated with a memory;

recording in one of said memories individual data uniquely associated with each individual of said plurality of machines, said individual data comprising a first data set comprising a plurality of base repair plans for each individual of said plurality of machines; said base repair plans having a work path

recording in one of said memories a second data set comprising a pre service life design change of any individual of said plurality of machines;

configuring one of said processors to record in said memory a third data set comprising any service life conversion of parts of each individual of said plurality of machines;

configuring at least one of said processors to generate a current repair plan when a repair plan is requested by a user identifying an individual one of said plurality of machines according to a unique identifier of that individual machine, said current repair plan being a modification of said base repair plan and of said work path from said first data set according to any pre service life design changes from said second data set and according to any service life conversion of parts from said third data set;

providing a repair vehicle, said repair vehicle having a processor in operative data communication with at least one of said diagnostic system, said remote processor or said central processor;

providing a diagnostic processor in each individual ones of said plurality of machines, said diagnostic processor, when in operative communication with one of said central computer or said remote computer, communicating diagnostic data; and

providing a diagnostic memory in each of said plurality of individual machines whereby said third data set may be updated when linked with said diagnostic memory.

Claims Showing Amendments

1-52 (Cancelled)

53. (Currently Amended) A method for generating a repair plan for any one of a plurality of ~~agricultural, construction or forestry machines~~ combines or harvester machines, said repair plan comprising step by step instructions for a human being to repair one of said machines, said method comprising:

providing a central processor and at least one remote processor, each of said processors having a network interface for operative communication through a computer network and each of said processors being associated with a memory;

recording in one of said memories individual data uniquely associated with each individual of said plurality of ~~agricultural, construction or forestry~~ machines, said individual data comprising a first data set comprising a plurality of base repair plans for each individual of said plurality of machines said base repair plans having a work path;

recording in one of said memories a second data set comprising a pre service life design change of any individual of said plurality of machines;

configuring one of said processors to record in said memory a third data set comprising any service life ~~modifications~~ conversions of parts of each individual of said plurality of machines; and

configuring at least one of said processors to generate a current repair plan when a repair plan is requested by a user identifying an individual one of said plurality of machines

according to a unique identifier of that individual machine, said current repair plan being a modification of said base repair plan and of said work path from said first data set according to any pre service life design changes from said second data set and according to any service life ~~modifications~~ conversions of parts from said third data set.

54. (Currently Amended) The method of claim 53 wherein data in said first, second or third data sets is selected from the group consisting of: parts needed for repair, parts recommended for maintenance, costs of suggested parts, availability of suggested parts, personnel recommended for a repair, availability and qualifications of personnel, and a ~~modification~~ history of said parts conversions the individual ~~agricultural, construction or forestry~~ one of said machines.

55. (Previously Presented) The method of claim 53 including an approval field configured for response by a user at said remote computer, said approval field being displayed in conjunction with said display of said data.

56. (Previously Presented) The method of claim 53 including a feedback input receiver, said feedback input receiver transmitting feedback data to said central computer for storage in said memory of said central computer.

57. (Previously Presented) The method of claim 53 wherein said feedback includes feedback selected from the group consisting of: a job completion acknowledgement, invoicing information and maintenance status.

58. (Previously Presented) The method of claim 53 wherein said processor of said central computer is configured to calculate and store in a memory a variance data set.

59. (Previously Presented) The method of claim 53 wherein said variance data set is selected from the group consisting of: repair time, employee evaluation, part performance evaluations, and system accuracy.

60. (Currently Amended) The method of claim 53 wherein said remote computer is located in one of said ~~agricultural, construction or forestry~~ machines.

61. (Previously Presented) The method of claim 53 wherein said second data set relates to data from the group consisting of: the machine's model, the machine's year of manufacture, and the machine's equipment.

62. (Currently Amended) The method of claim 53 wherein said third data set ~~relates to~~ includes data selected from the group consisting of : the machine's hours of running and the machine's service history.

63. (Previously Presented) The method of claim 53 further comprising a diagnostic processor in each individual one of said plurality of machines, said diagnostic processor, when in operative communication with one of said central computer or said remote computer, communicating diagnostic data.

64. (Currently Amended) The method of claim 53 wherein said repair plan includes particulars regarding at least one of: a necessary expenditure of time to be planned for repair of the machine, a list of parts needed for repair of the machine, a list of tools needed for repair of the machine, or a graphic detail necessary for carrying out repair of the machine, an allocation of employees, an allocation of work space, or an allocation of repair vehicles

65. (Previously Presented) The method of claim 53, wherein needed resources are automatically provided upon an acceptance of the repair plan.

66. (Previously Presented) The method of claim 53, including an input verification element for verification of the execution of each work step of the repair plan into said remote computer system.

67. (Previously Presented) The method according to claim 53, wherein the remote processor produces documentation on the repair carried out from the repair plan and sends the documentation to said central processor, indicating said unique identifier of the machine.

68. (Previously Presented) The method according to claim 53, wherein one of said remote processor or said central processor produces an account for repair of the machine, with the aid of the repair plan.

69. (Previously Presented) The method according to claim 53 further comprising a repair vehicle, said repair vehicle having a processor in operative data communication with at least one of said diagnostic system, said remote processor or said central processor.

70. (Currently Amended) The method according to claim 53 further comprising a diagnostic system within each individual one of said ~~agricultural, construction or forestry~~

machines, the diagnostic system including an interface capable of operative communication with said remote processor, and said diagnostic system being configured to communicate data to said remote processor.

71. (Previously Presented) The method of claim 53 wherein said created current repair plan includes a replacement of parts that have reached the end of their useful service life.

72. (Currently Amended) The method of claim 53 further comprising a diagnostic memory in each of said plurality of individual one of said ~~agricultural or forestry~~ machines whereby said third data set may be updated when linked with said diagnostic memory.

73. (Currently Amended) The method of claim 53 wherein said work path of said current repair plan includes instructions for dismounting particular working parts of the individual machine in order to reach a defective part.

74. (Currently Amended) A method for generating a repair plan for any one of a plurality of ~~agricultural, construction or forestry~~ combine or harvester machines, said repair plan comprising step by step instructions for a human being to repair one of said machines, said method comprising:

providing a central processor and at least one remote processor, each of said processors having a network interface for operative communication through a computer network and each of said processors being associated with a memory;

recording in one of said memories individual data uniquely associated with each individual of said plurality of ~~agricultural, construction or forestry~~ machines, said individual data comprising a first data set comprising a plurality of base repair plans for each individual of said plurality of machines; said base repair plans having a work path

recording in one of said memories a second data set comprising a pre service life design change of any individual of said plurality of machines;

configuring one of said processors to record in said memory a third data set comprising any service life ~~modifications~~ conversions of parts of each individual of said plurality of machines;

configuring at least one of said processors to generate a current repair plan when a repair plan is requested by a user identifying an individual one of said plurality of machines according to a unique identifier of that individual machine, said current repair plan being a modification of said base repair plan and of said work path from said first data set according to any pre service life design changes from said second data set and according to any service life ~~modifications~~ conversions of parts from said third data set;

providing a repair vehicle, said repair vehicle having a processor in operative data communication with at least one of said diagnostic system, said remote processor or said central processor;

providing a diagnostic processor in each individual ones of said plurality of machines, said diagnostic processor, when in operative communication with one of said central computer or said remote computer, communicating diagnostic data; and

providing a diagnostic memory in each of said plurality of individual machines whereby said third data set may be updated when linked with said diagnostic memory.

X. EVIDENCE APPENDIX

A. US Patent No. 5,442,553 (Parillo)

B. U.S. Patent No. 5,999,908 (Abelow)

XI. RELATED PROCEEDING APPENDIX

None.